



Goldeye

CL-033

- Very fast Camera Link SWIR camera
- Compact industrial design, no fan
- Easy camera configuration via GenCP

Description

Goldeye CL-033 - High-speed short-wave infrared camera

The new Goldeye CL-033 high-speed camera is one of the fastest VGA resolution short wave infrared camera (SWIR) with Camera Link interface. Frame rates up to 301 fps at full resolution enable you to access versatile application fields and to speed up your processes.

Save time and money to integrate the camera into your system: A small form factor and multiple mounting options let the camera fit easily into compact system designs. In addition, its standardized Camera Link interface including GenCP support and comprehensive I/O control options simplify the connection to your software solution and the synchronization with other system components.

The integrated thermo-electric sensor cooling and several on-board image correction features contribute to the Goldeye's outstanding image quality.

Reveal more of the invisible with Goldeye SWIR cameras!

Benefits and features

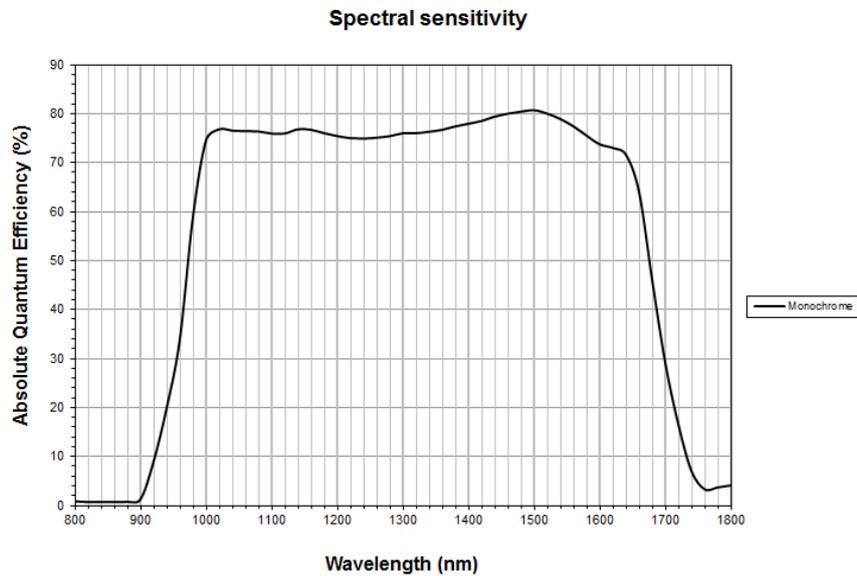
- Compact industrial design
- Up to 301 fps at full resolution
- Camera Link interface with GenCP support
- Comprehensive I/O control options
- Automated on-board image correction
- Stabilized sensor cooling, no fan
- Extended operating temperature range

Options

- Available with C- / F- / M42 Mount

Specifications

Goldeye	CL-033
Interface	Camera Link Base
Resolution	640 × 512
Spectral range	900 nm - 1700 nm
Sensor	InGaAs FPA 640 x 512
Sensor type	InGaAs
Cell size	15 μm x 15 μm
Cooling temperature	+5 °C, +20 °C +35 °C, +50 °C, or user-configurable
Temporal dark noise	390 e ⁻ (Gain0), 32 e ⁻ (Gain2)
Dark current	110 ke ⁻ /s (@ +20 °C FPA Temperatur)
Saturation capacity	1.2 Me ⁻ (Gain0), 25 ke ⁻ (Gain2)
Dynamic range	69 dB (Gain0), 59 dB (Gain2)
Lens mount	C-Mount, F-Mount, M42-Mount
Max frame rate at full resolution	301 fps
ADC	14 bit
On-board FIFO	256 Mbyte
Output	
Bit depth	8 - 14 bit
Mono modes	Tap Geometry 1X 1Y: Mono8, Mono12, Mono14; Tap Geometry 1X2 1Y: Mono8, Mono12
General purpose inputs/outputs (GPIOs)	
TTL I/Os	LVTTL I/Os: 1 input, 1 output
Opto-isolated I/Os	1 Input, 2 Outputs
RS-232	115 200 Baud, 8N1 (adjustable)
Operating conditions/dimensions	
Operating temperature	-20 °C to +55 °C (Case)
Power requirements (DC)	10.8 V to 30.0 V
Power consumption (@12 V)	11.8 W (@ 12 V DC)
Mass	350 g (with C-Mount adaptor)
Body dimensions (L × W × H in mm)	78 × 55 × 55
Regulations	CE, RoHS (2011/65/EU), WEEE, FCC Part 15 Class B



Features

IR-specific features (camera and sensor)

- Integrated correction data sets, compensation of sensor inhomogeneity and underlying structures (non-uniformity correction - NUC)
- Defect pixel correction
- Background correction
- Automated and manual sensor temperature management via TEC Features
- Temperature status LED

General features

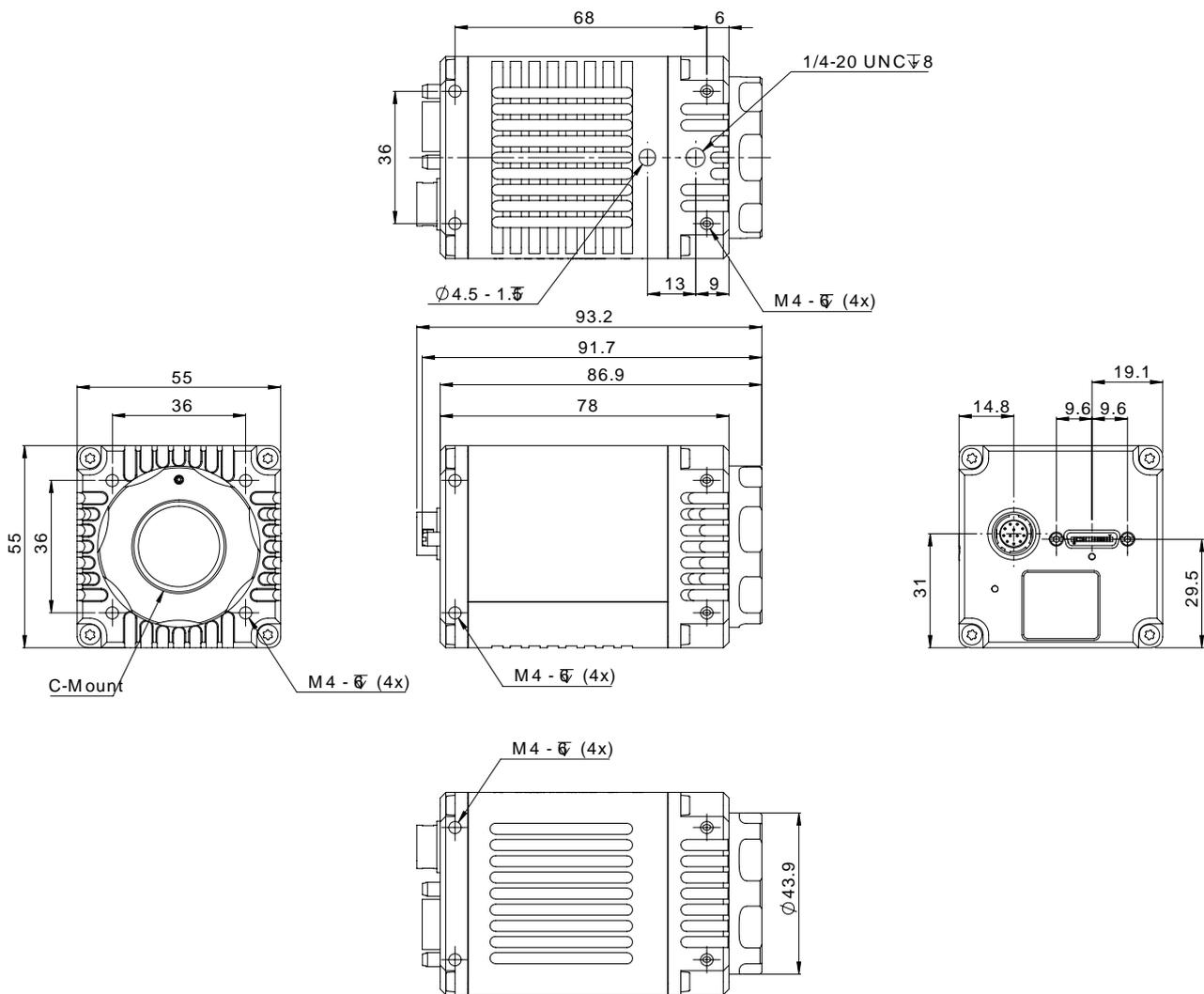
- Exposure time control
- Gain (analog)
- I/O configuration and trigger control
- Storable user sets
- Firmware update in the field
- Region of interest (ROI) control, Look-up table (LUT) support

Goldeye cameras are compatible with Allied Vision's Vimba SDK. Moreover, in combination with our AcquireControl software, extensive image analysis functions are available:

- Pseudo color LUT with several color profiles
- Auto contrast
- Auto brightness

- Analyze multiple regions (rectangular, circle) within the image
- Real-time statistics and histogram display
- ... and more

Technical drawing





Applications

Goldeye cameras are very sensitive in the SWIR spectrum. They can be used in an extended operating temperature range. Thanks to TEC cooling and integrated image correction, Goldeye cameras achieve an outstanding image quality with little noise and a high dynamic range. They are well-suited for many typical SWIR applications in various industry branches:

- Semiconductor industry: solar cell and chip inspection
- Recycling industry: plastics sorting
- Medical imaging, sciences: hyperspectral imaging, microscopy, OCT
- Metal and glass industry: thermal imaging of hot objects (250 °C to 800 °C)
- Agriculture industry: airborne remote sensing
- Printing industry: banknote inspection
- Electronics industry: laser beam profiling
- Surveillance and security: vision enhancement (e.g., through fog or night vision)
- ... and many more

White Paper

To learn more about typical application fields for SWIR cameras, download our White Paper:

[Seeing beyond the visible – short-wave infrared \(SWIR\) cameras offer new application fields in machine vision](#)